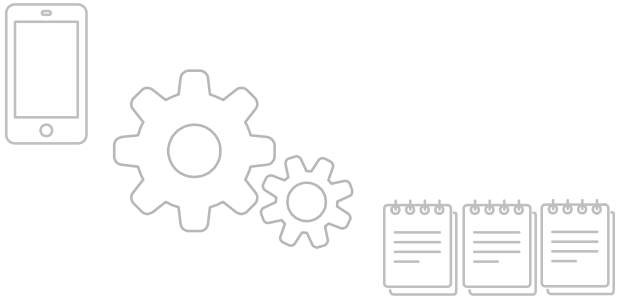


SCRIPTING IN MULTIPLE LANGUAGES

bit.ly/hispus_scf

Ben Guaraldi

Development Team Lead for DATIM (the PEPFAR installation of DHIS2)

1.

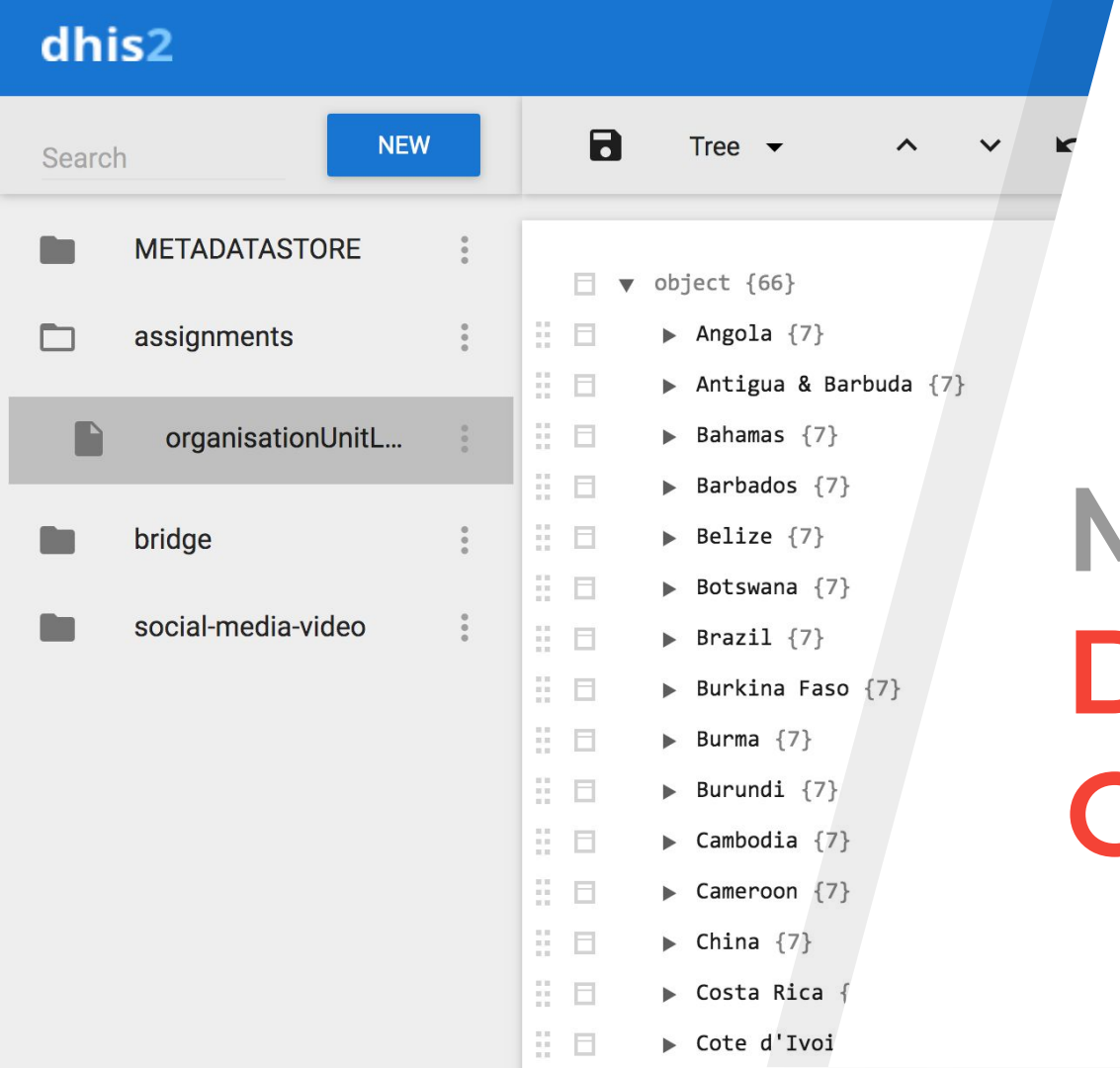
WHO AM I?

CODING EXPERIENCE

- Basic
- DOS Batch
- Visual Basic
- Excel
- C++
- Javascript
- Perl
- PHP
- SQL
- Bash
- Scheme
- Python
- Java
- R

2.

THE PROBLEM



MODIFY A DATA STORE OBJECT

3.

PYTHON

PYTHON CHARACTERISTICS

- Created in 1991
- Heightened popularity around 2004, partially due to Google
- Designed for ease of writing code and readability (e.g., semantic indenting)
- Great all-purpose programming tool

4.

R

R CHARACTERISTICS

- Created in 1993; based on S (1976)
- Heightened popularity in the mid-2000s
- Many statistical processes that are extremely difficult in other languages are straightforward in R
- Favorite language of pirates

5.

JAVASCRIPT

JAVASCRIPT CHARACTERISTICS

- Created in 1995
- Popular almost immediately, as it was the main way to make webpages dynamic on the client side
- Based on Scheme, but has a syntax similar to Java and C++
- Because it was often run in unknown environments, known for platform compatibility issues
- Turned into a server-side language at the advent of nodejs in 2009

6.

JAVA

JAVA CHARACTERISTICS

- Created in 1995
- Based on C++
- Designed to create cross-platform applications (e.g., Windows, Mac, Unix)
- Popular almost immediately
- Open source since 2006

7.

BASH

X.

INTERMISSION?

BASH CHARACTERISTICS

- Created in 1989; ancestors include:
  - Bourne shell (1979)
  - Thompson shell (1975)
  - Multics (1965)
- Included with Linux, OS X, and even Windows
- Designed to execute commands interactively; not originally for scripting
- Is generally available but not a good idea for anything other than simple scripts

8.

SQL

SQL CHARACTERISTICS

- Created in the mid-1970s
- Became popular in the 1980s and is the most widely used database language
- Can be used procedurally, but often is written in single statements and used with other languages
- Different implementations are not fully compatible with each other

9.

CODA

FUTURE WORK

- Ruby
- Scheme
- Access
- Visual Basic
- Excel
- Dolittle
- Scratch
- Piet
- Obfuscated Perl
- Brainfsck

THANKS!

Any questions?

Contact: ben@dhis2.org

Code files on Github: bit.ly/hispus_sml